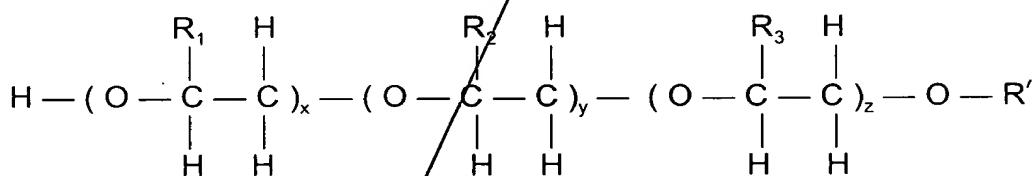


CLAIMS

What is claimed is:

5 *Sub A1*
1. A process for cleaning substrates comprising:
cleaning the substrates with an organic solvent; and
removing the organic solvent from the substrates using a pressurized fluid
solvent;

10 wherein the organic solvent is of the structural formula:



15 wherein x, y, and z each is zero or one;

at least one of x, y, and z is one;

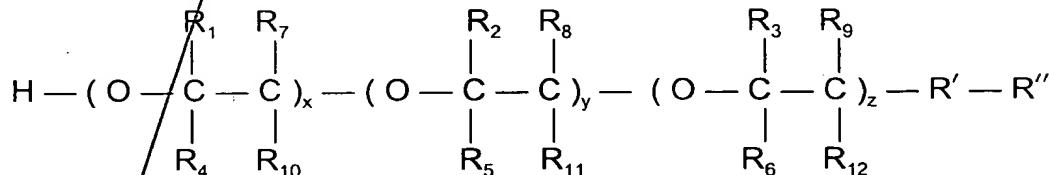
20 R' is C_jH_{2j+1} wherein j is an integer between one and $(13-3(x+y+z))$, inclusive;

and

25 R_{1-3} are independently H or CH_3 .

2. A process for cleaning substrates comprising:
cleaning the substrates with an organic solvent; and
removing the organic solvent from the substrates using a pressurized fluid
solvent;

30 wherein the organic solvent is of the structural formula:



35 wherein x, y, and z each is zero or one;

at least one of x, y, and z is one;

40 R'' is benzyl, phenyl, partially or fully fluorinated benzyl or phenyl, C_jH_{2j+1} , or
 $C_jH_aF_b$ wherein j is an integer between one and $(13-3(x+y+z))$, inclusive, a and b
each is independently an integer between zero and $2j+1$, inclusive, and $a+b=2j+1$;

R_{1-12} are independently $C_mH_nF_p$ or $C_dH_eF_g$ where m is an integer between zero and two, inclusive, n and p are integers between zero and five, inclusive and $n+p=2m+1$, d is an integer between zero and two, inclusive, e and g are integers between zero and five, inclusive, and $e+g=2d+1$; and

5 R' is O, S, carbonyl or ester.

3. The process of claim 2 wherein:

R' is O;

R'' is C_jH_{2j+1} ;

R_{1-3} are independently H or CH_3 ; and

R_{4-12} each is H.

4. The process of claim 2 wherein:

R' is S, carbonyl or ester;

R'' is C_jH_{2j+1} ;

R_{1-3} are independently H or CH_3 ; and

R_{4-12} each is H.

5. The process of claim 2 wherein:

R' is O;

R'' is C_jH_{2j+1} ;

R_{1-3} are independently H, CH_3 , or C_2H_5 ; and

at least one of R_{1-3} is CH_2CH_3 ; and

R_{4-12} are each H.

6. The process of claim 2 wherein:

R' is S, carbonyl or ester;

R'' is C_jH_{2j+1} ;

R_{1-3} are independently H, CH_3 , or C_2H_5 ; and

at least one of R_{1-3} is CH_2CH_3 ; and

R_{4-12} are each H.

7. The process of claim 2 wherein:

R' is O;

R'' is C_jH_{2j+1} ;

R₁₋₉ are each H;

5 R₁₀₋₁₂ are independently H or CH₃; and
at least one of R₁₀₋₁₂ is CH₃.

8. The process of claim 2 wherein:

R' is S, carbonyl or ester;

10 R'' is C_jH_{2j+1} ;

R₁₋₉ are each H;

R₁₀₋₁₂ are independently H or CH₃; and
at least one of R₁₀₋₁₂ is CH₃.

15 9. The process of claim 2 wherein:

R' is O;

R'' is C_jH_{2j+1} ;

R₁₋₉ are each H;

20 R₁₀₋₁₂ are independently H, CH₃, or C₂H₅; and
at least one of R₁₀₋₁₂ is CH₂CH₃.

10. The process of claim 2 wherein:

R' is S, carbonyl or ester;

25 R'' is C_jH_{2j+1} ;

R₁₋₉ are each H;

R₁₀₋₁₂ are independently H, CH₃, or C₂H₅; and
at least one of R₁₀₋₁₂ is CH₂CH₃.

11. The process of claim 2 wherein:
R' is O;
R'' is $C_jH_aF_b$;
R₁₋₃ are independently H, F, CH₃, CH₂F, CHF₂, or CF₃;
And at least one is CH₃, CH₂F, CHF₂, or CF₃; and
R₄₋₁₂ are independently H or F.

12. The process of claim 2 wherein:
R' is S, carbonyl, or ester;
R'' is $C_jH_aF_b$;
R₁₋₃ are independently H, F, CH₃, CH₂F, CHF₂, or CF₃;
And at least one is CH₃, CH₂F, CHF₂, or CF₃; and
R₄₋₁₂ are independently H or F.

13. The process of claim 2 wherein:
R₁₋₃ are independently $C_mH_nF_p$;
at least one of R₁₋₃ is $C_2H_nF_p$;
R₄₋₁₂ are independently H or F;
R' is O; and
R'' is $C_jH_aF_b$.

14. The process of claim 2 wherein:
R₁₋₃ are independently $C_mH_nF_p$;
at least one of R₁₋₃ is $C_2H_nF_p$;
R₄₋₁₂ are independently H or F;
R' is S, carbonyl or ester; and
R'' is $C_jH_aF_b$.

15. The process of claim 2 wherein:

R_{1-9} are independently H or F;

R_{10-12} are independently H, F, CH_3 , CH_2F , CHF_2 or CF_3 ;

at least one of R_{10-12} is CH_3 , CH_2F , CHF_2 or CF_3 ;

5

R' is O; and

R'' is $C_jH_aF_b$.

16. The process of claim 2 wherein:

R_{1-9} are independently H or F;

10

R_{10-12} are independently H, F, CH_3 , CH_2F , CHF_2 or CF_3 ;

at least one of R_{10-12} is CH_3 , CH_2F , CHF_2 or CF_3 ;

R' is S, carbonyl or ester; and

R'' is $C_jH_aF_b$.

15. The process of claim 2 wherein:

R' is O;

R'' is $C_jH_aF_b$;

R_{1-3} are independently $C_mH_nF_p$;

R_{4-9} are independently H or F; and

20

R_{10-12} are independently $C_dH_eF_g$.

18. The process of claim 2 wherein:

R' is S, carbonyl or ester;

R'' is $C_jH_aF_b$;

25

R_{1-3} are independently $C_mH_nF_p$;

R_{4-9} are independently H or F; and

R_{10-12} are independently $C_dH_eF_g$.

19. The process of claim 2 wherein:
R' is O;
R'' is benzyl or phenyl;
R₁₋₃ are independently H, CH₃, or C₂H₅;
at least one of R₁₋₃ is CH₂CH₃; and
R₄₋₁₂ are each H.

20. The process of claim 2 wherein:
R' is S, carbonyl or ester;
R'' is benzyl or phenyl;
R₁₋₃ are independently H, CH₃, or C₂H₅;
at least one of R₁₋₃ is CH₂CH₃; and
R₄₋₁₂ are each H.

21. The process of claim 2 wherein:
R' is O;
R'' is benzyl or phenyl;
R₁₋₉ are each H;
R₁₀₋₁₂ are independently H or CH₃; and
at least one of R₁₀₋₁₂ is CH₃.

22. The process of claim 2 wherein:
R' is S, carbonyl or ester;
R'' is benzyl or phenyl;
R₁₋₉ are each H;
R₁₀₋₁₂ are independently H or CH₃; and
at least one of R₁₀₋₁₂ is CH₃.

23. The process of claim 2 wherein:

R' is O;

R'' is benzyl or phenyl;

R₁₋₉ are each H;

R₁₀₋₁₂ are independently H, CH₃, or C₂H₅; and

5 at least one of R₁₀₋₁₂ is CH₂CH₃.

24. The process of claim 2 wherein:

R' is S, carbonyl or ester;

10 R'' is benzyl or phenyl;

R₁₋₉ are each H;

R₁₀₋₁₂ are independently H, CH₃, or C₂H₅; and

15 at least one of R₁₀₋₁₂ is CH₂CH₃.

25. The process of claim 2 wherein:

R'' is benzyl, phenyl, or partially or fully fluorinated benzyl or phenyl;

R₁₋₃ are independently C_mH_nF_p;

20 at least one of R₁₋₃ is C₂H_nF_p;

R₄₋₁₂ are independently H or F; and

R' is O.

26. The process of claim 2 wherein:

25 R'' is benzyl, phenyl, or partially or fully fluorinated benzyl or phenyl;

R₁₋₃ are independently C_mH_nF_p;

30 at least one of R₁₋₃ is C₂H_nF_p;

R₄₋₁₂ are independently H or F; and

R' is S, carbonyl or ester.

27. The process of claim 2 wherein:

R'' is benzyl, phenyl, or partially or fully fluorinated benzyl or phenyl;

R₁₋₉ are independently H or F;

5 R₁₀₋₁₂ are independently H, F, CH₃, CH₂F, CHF₂ or CF₃;

at least one of R₁₀₋₁₂ is CH₃, CH₂F, CHF₂ or CF₃; and

R' is O.

28. The process of claim 2 wherein:

R'' is benzyl, phenyl, or partially or fully fluorinated benzyl or phenyl;

R₁₋₉ are independently H or F;

R₁₀₋₁₂ are independently H, F, CH₃, CH₂F, CHF₂ or CF₃;

15 at least one of R₁₀₋₁₂ is CH₃, CH₂F, CHF₂ or CF₃; and

R' is S, carbonyl or ester.

20 29. The process of claim 2 wherein:

R'' is benzyl, phenyl, or partially or fully fluorinated benzyl or phenyl;

R₁₋₉ are independently H or F;

R₁₀₋₁₂ are independently C_mH_nF_p;

25 at least one of R₁₀₋₁₂ is C₂H_nF_p; and

R' is O.

30 30. The process of claim 2 wherein:

R'' is benzyl, phenyl, or partially or fully fluorinated benzyl or phenyl;

R₁₋₉ are independently H or F;

R₁₀₋₁₂ are independently C_mH_nF_p;

35 at least one of R₁₀₋₁₂ is C₂H_nF_p; and

R' is S, carbonyl or ester.

31. The process of claim 2 wherein:

R' is O;

R'' is benzyl, phenyl, or partially or fully fluorinated benzyl or phenyl;

5 R₁₋₃ are independently C_mH_nF_p;

R₄₋₉ are independently H or F; and

R₁₀₋₁₂ are independently C_dH_eF_g.

32. The process of claim 2 wherein:

10 R' is S, carbonyl or ester;

R'' is benzyl, phenyl, or partially or fully fluorinated benzyl or phenyl;

R₁₋₃ are independently C_mH_nF_p;

R₄₋₉ are independently H or F; and

R₁₀₋₁₂ are independently C_dH_eF_g.

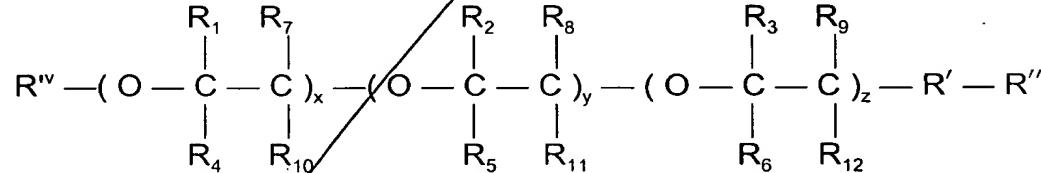
33. A process for cleaning substrates comprising:

cleaning the substrates with an organic solvent; and

removing the organic solvent from the substrates using a pressurized fluid

20 solvent;

wherein the organic solvent is of the structural formula:



wherein x, y, and z each is zero or one;

at least one of x, y, and z is one;

30 R'' is C_jH_uF_v and R'' is C_kH_rF_s wherein j and k are each an integer between one and (13-3(x+y+z)), inclusive, and j+k is an integer between two and (13-3(x+y+z)), inclusive, u and v are each an integer between zero and 2j+1, inclusive,

and $u+v=2j+1$, and r and s are each an integer between zero and $2k+1$, inclusive, and $r+s=2k+1$;

R_{1-3} and R_{4-12} are independently $C_mH_nF_p$, where m is an integer between zero and two, inclusive, n and p are integers between zero and five, inclusive and $n+p=2m+1$;

R_{4-9} are independently H, F or CH_3 ; and

R' is O, S, carbonyl or ester.

34. The process of claim 33 wherein:

R' is O;

R'' is C_jH_{2j+1} ;

R^IV is C_kH_{2k+1} ;

R_{1-3} are independently H or CH_3 ; and

R_{4-12} are each H.

35. The process of claim 33 wherein:

R' is S, carbonyl or ester;

R'' is C_jH_{2j+1} ;

R^IV is C_kH_{2k+1} ;

R_{1-3} are independently H or CH_3 ; and

R_{4-12} are each H.

36. The process of claim 33 wherein:

R' is O;

R'' is C_jH_{2j+1} ;

R^IV is C_kH_{2k+1} ;

R_{1-3} are independently H, CH_3 , or C_2H_5 ;

at least one of R_{1-3} is CH_2CH_3 ; and

R_{4-12} are each H.

10

15

20

25

30

5 37. The process of claim 33 wherein:
R' is S, carbonyl or ester;
R'' is C_jH_{2j+1} ;
R^{IV} is C_kH_{2k+1} ;
R₁₋₃ are independently H, CH₃, or C₂H₅;
at least one of R₁₋₃ is CH₂CH₃; and
R₄₋₁₂ are each H.

10 38. The process of claim 33 wherein:
R' is O;
R'' is C_jH_{2j+1} ;
R^{IV} is C_kH_{2k+1} ;
R₁₋₉ are each H;
R₁₀₋₁₂ are independently H or CH₃; and
at least one of R₁₀₋₁₂ is CH₃.

15 39. The process of claim 33 wherein:
R' is S, carbonyl or ester;
R'' is C_jH_{2j+1} ;
R^{IV} is C_kH_{2k+1} ;
R₁₋₉ are each H;
R₁₀₋₁₂ are independently H or CH₃; and
at least one of R₁₀₋₁₂ is CH₃.

20 40. The process of claim 33 wherein:
R' is O;
R'' is C_jH_{2j+1} ;
R^{IV} is C_kH_{2k+1} ;
R₁₋₉ are each H;
R₁₀₋₁₂ are independently H, CH₃, or C₂H₅; and
at least one of R₁₀₋₁₂ is CH₂CH₃.

41. The process of claim 33 wherein:
R' is S, carbonyl or ester;
R'' is C_jH_{2j+1} ;
R^{IV} is C_kH_{2k+1} ;
R₁₋₉ are each H;
R₁₀₋₁₂ are independently H, CH₃, or C₂H₅; and
at least one of R₁₀₋₁₂ is CH₂CH₃.

42. The process of claim 33 wherein:
R₁₋₃ are independently H, F, CH₃, CH₂F, CHF₂, or CF₃;
R₄₋₁₂ are independently H or F; and
R' is O.

43. The process of claim 33 wherein:
R₁₋₃ are independently H, F, CH₃, CH₂F, CHF₂, or CF₃;
R₄₋₁₂ are independently H or F; and
R' is S, carbonyl or ester.

44. The process of claim 33 wherein:
at least one of R₁₋₃ is C₂H_nF_p;
R₄₋₁₂ are each independently H or F; and
R' is O.

45. The process of claim 33 wherein:
at least one of R₁₋₃ is C₂H_nF_p;
R₄₋₁₂ are each independently H or F; and
R' is S, carbonyl or ester.

Sub A3

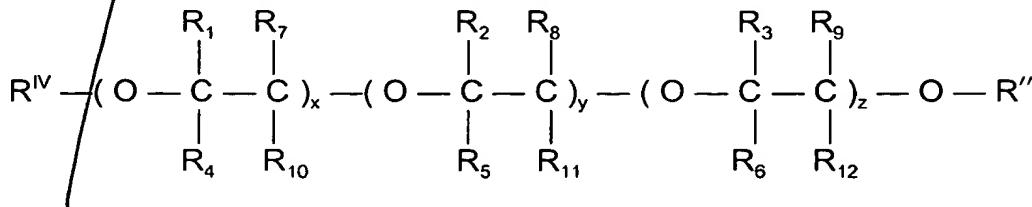
46. The process of claim 33 wherein:
 R_{1-9} are independently H or F;
 R_{10-12} are independently H, F, CH_3 , CH_2F , CHF_2 or CF_3 ;
at least one of R_{10-12} is CH_3 , CH_2F , CHF_2 or CF_3 ; and
 R' is O.

47. The process of claim 33 wherein:
 R_{1-9} are independently H or F;
 R_{10-12} are independently H, F, CH_3 , CH_2F , CHF_2 or CF_3 ;
at least one of R_{10-12} is CH_3 , CH_2F , CHF_2 or CF_3 ; and
 R' is S, carbonyl or ester.

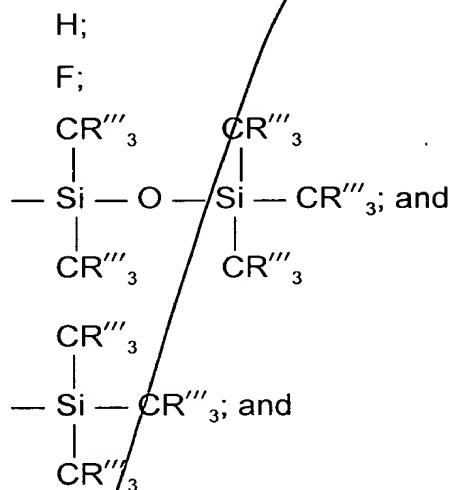
48. The process of claim 33 wherein:
 R_{1-9} are independently H, F, CH_3 , CH_2F , CHF_2 or CF_3 ;
at least one of R_{10-12} is $C_2H_nF_p$; and
 R' is O.

49. The process of claim 33 wherein:
 R_{1-9} are independently H, F, CH_3 , CH_2F , CHF_2 or CF_3 ;
at least one of R_{10-12} is $C_2H_nF_p$; and
 R' is S, carbonyl or ester.

50. A process for cleaning substrates comprising:
cleaning the substrates with an organic solvent; and
removing the organic solvent from the substrates using a pressurized fluid solvent;
wherein the organic solvent is of the structural formula:

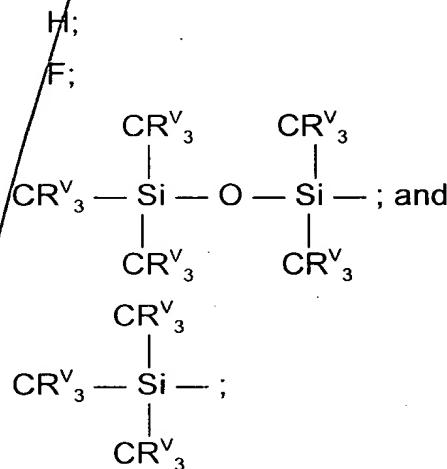


wherein x, y, and z are each zero or one;
at least one of x, y, and z is one;
R'' is selected from the group including:



wherein R''' is H, F or combinations of H and F;

R^{IV} is selected from the group including:



wherein R^V is H, F or combinations of H and F; and

when R'' is H or F, R^{IV} is not H or F.

R₁₋₃ are independently H, F, CH₃, CH₂F, CHF₂ or CF₃; and

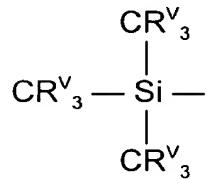
R₄₋₁₂ are independently H or F.

51. The process of claim 50 wherein:

R^V is:

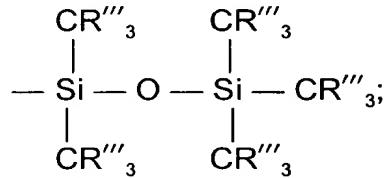
H

or



10 wherein R^V is H, F or combinations of H and F; and

R'' is:



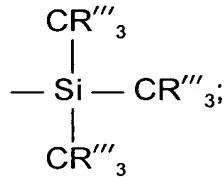
wherein R'' is H, F or combinations of H and F.

52. The process of claim 50 wherein:

R'' is:

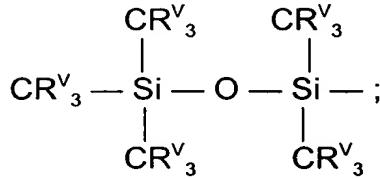
H

or



25 wherein R'' is H, F or combinations of H and F; and

R^V is:

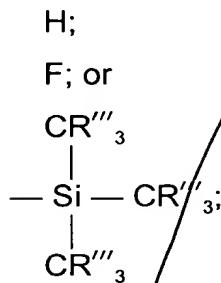


35 wherein R^V is H, F or combinations of H and F.

53. The process of claim 50 wherein:

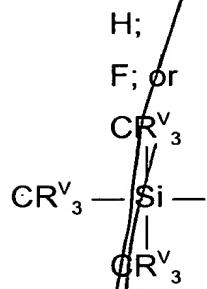
Suba 31

R'' is:



10 wherein R''' is H, F or combinations of H and F; and

R^{IV} is:



20 wherein R^V is H, F or combinations of H and F; and

when R'' is H or F, R^{IV} is not H or F.

54. The process of claim 50 wherein:

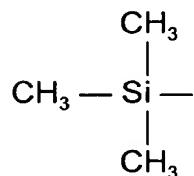
25 R₁₋₃ are independently H or CH₃;

R₄₋₁₂ are each H;

R^{IV} is:

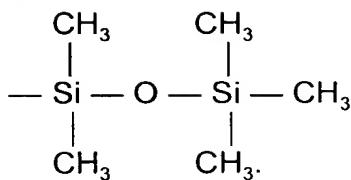
H

or



and

R'' is:



55. The process of claim 50 wherein:

R₁₋₃ are independently H or CH₃;

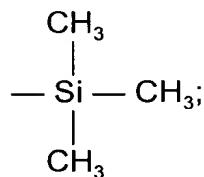
10

R₄₋₁₂ are each H;

R'' is:

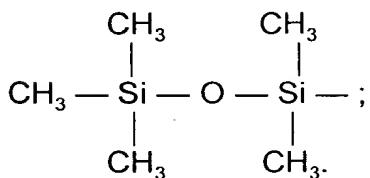
H

or



and

20 R^{IV} is:



56. The process of claim 50 wherein:

R₁₋₃ are independently H or CH₃;

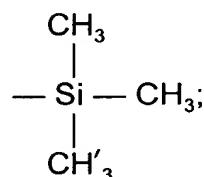
30

R₄₋₁₂ are each H;

R'' is:

H;

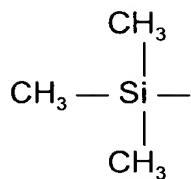
or



R^{IV} is:

H;

or

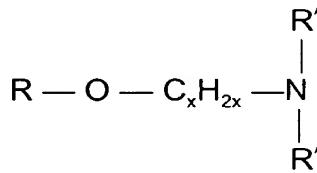


10

and when R'' is H, R^{IV} is not H.

Subast

57. A process for cleaning substrates comprising:
cleaning the substrates with an organic solvent; and
removing the organic solvent from the substrates using a pressurized fluid
solvent;
wherein the organic solvent is of the structural formula:



25

wherein R' is $H_j - (R''' - C - C)_k -$ and

$$\begin{array}{c} R^{IV} \quad R^{IV} \\ | \quad | \\ R''' - C - C \\ | \quad | \\ R^{IV} \quad R^{IV} \end{array}$$

30

R'' is $H_j - (R'' - C - C)_n -$

$$\begin{array}{c} R^{IV} \quad R^{IV} \\ | \quad | \\ R'' - C - C \\ | \quad | \\ R^{IV} \quad R^{IV} \end{array}$$

wherein R''' is O and j is 1 or R''' is N and j is 2;

n is an integer between zero and two;

35

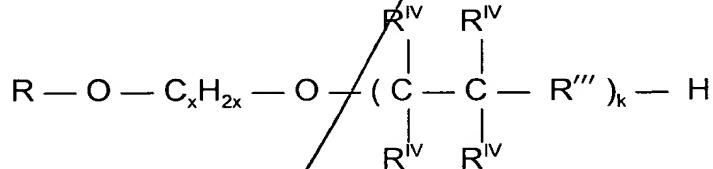
R^{IV} are each independently H, CH_3 or CH_2CH_3 and k is an integer between zero and two inclusive; and

wherein R is $C_y H_{2y+1}$ and y is an integer between one and $(12 - (3k + 3n + x))$ inclusive, and x is an integer between one and $(12 - (3k + y))$, inclusive.

Subj 57

5 10
58. A process for cleaning substrates comprising:
cleaning the substrates with an organic solvent; and
removing the organic solvent from the substrates using a pressurized fluid
solvent;

wherein the organic solvent is of the structural formula:



wherein R''' is O and j is 1 or R''' is N and j is 2;

R^{IV} are each independently H, CH_3 or CH_2CH_3 and k is an integer between zero and two inclusive; and

wherein R is $C_y H_{2y+1}$ and y is an integer between one and $(12 - (3k+x))$ inclusive, and x is an integer between one and $(12 - (3k+y))$, inclusive.

John C. G.